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ABSTRACT

The report summarizes the findings and conclusions from the second and final year of an evaluation of Head Start's efforts to serve handicapped children. It is explained that baseline and posttest data were collected on 391 handicapped Head Start students, 321 handicapped children in non-Head Start preschool programs, and 121 unserved handicapped children. Results of comparative analyses are seen to indicate that Ss in both Head Start and non-Head Start programs, (particularly speech impaired Ss), showed gains in motoric, self help, social, academic, and communication skills that were generally greater than those of non-served Ss. Data also is reported to show that Head Start compared favorably with other service alternatives in terms of child-specific outcomes. Other findings reported include that program benefits for Head Start Ss were variously associated with the amount of time Ss spent in a mainstreaming situation, small class sizes, and low ratios of handicapped to non-handicapped Ss. (Author/CL)

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EVALUATION OF THE PROCESS OF MAINSTREAMING HANDICAPPED CHILDREN INTO PROJECT HEAD START

Phase II Executive Summary

December 15, 1978

Prepared for:

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Office of Human Development Services
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ABSTRACT

This report presents the highlights of a study of Head Start services to the handicapped during the 1977-78 program year. Baseline and posttest data were collected on a sample of 391 handicapped Head Start enrollees. 321 handicapped children in non-Head Start preschool programs, and 121 unserved handicapped children.

Results of comparative analyses indicated that children in both Head Start and non-Head Start programs evidenced gains in motoric, self-help, social, academic, and communication skills that were generally greater than those of non-served children. This was particularly so for children identified as speech impaired. Data also indicated that Head Start, over the period investigated in this study, compared very favorably with other service alternatives in terms of child-specific outcomes.

Among Head Start enrollees, program benefits seemed to be variously associated with the amount of time children spent in a mainstreaming context, small class sizes, and low ratios of handicapped to non-handicapped children. Also, teacher experience with handicapped children was more often associated with program benefits among Head Start handicapped children than teachers' formal education for all handicaps except mental retardation.

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INTRODUCTION

Background

This report is a summary of the findings and conclusions from the second year of a two-year evaluation of Project Head Start efforts to serve handicapped children. The study was funded by the Administration for Children, Youth and Families pursuant to Section 524(a) of the Head Start, Economic Opportunity, and Community Partnership Act of 1974 (Public Law 93-644) and was conducted under contract to Applied Management Sciences during the 1977-78 Head Start program year.

Study Objectives

The intent of this evaluation effort was to provide answers to the following set of study questions:

- How does the progress of handicapped children enrolled in Head Start compare with the progress of handicapped children receiving no special services?
- How does the progress of handicapped children enrolled in Head Start compare with the progress of handicapped children enrolled in other programs of services?
- Within Head Start programs, what variables explain differential progress among handicapped children?
- Do variables that account for developmental progress among children enrolled in Head Start differ from those that account for progress among children enrolled in non-Head Start programs?
- To what extent does a handicapped child's enrollment in Head Start affect his/her parents' attitudes toward and involvement in the child's program of services?

Evaluation Design

Two "treatment" groups were established for this study--handicapped preschool children enrolled in Head Start programs and handicapped preschool children enrolled in non-Head Start programs. In addition, a third "no treatment" group was established that included preschool handicapped children who were not enrolled in any program of services. Assignment to each of the study groups was based on preexisting program affiliation (or lack thereof). Consequently, the treatment groups were non-equivalent along important dimensions. To the extent possible, these preexisting group differences were controlled for in comparative analyses.

Study Sample

The sample for the evaluation of the Head Start handicapped effort was selected in two steps. The first step involved the selection of programs to participate in the proposed evaluation; the second step involved selection of actual study participants. Each step is discussed in turn.

Program Sample

A total of 55 Head Start programs were asked to participate in this study. Randomly selected, these programs were representative of the universe of all Head Start programs.

The non-Head Start programs participating in the study were selected from the same communities in which the sample Head Start programs were located. Their participation was totally voluntary, though, and therefore little control could be exercised to assure that in terms of program structure and organization these programs were comparable to Head Start programs.

One hundred sixty non-Head Start programs were contacted and asked to participate, and 54 responded positively. Five of these programs were subsequently excluded from the study resulting in a final sample of 49 non-Head Start programs. Exhibit 1 indicates the type of non-Head Start programs that participated in the evaluation effort.

EXHIBIT 1: TYPES OF NON-HEAD START PROGRAMS PARTICIPATING IN THIS STUDY

Public School Preschool Special Education Programs (non-categorical)[1/]	7
Publically Funded Special Education Programs not under Local Education Agency Sponsorship (generally categorical programs for the mentally retarded)	8
Privately Funded Special Education Programs (non-categorical)	6
Private Preschool Programs for Retarded Children	10
Easter Seals/Crippled Children's Association Programs	5
Private Preschools for Speech Impaired Children	2
Private Research Foundations (categorical)	2
University Affiliated Programs (generally categorical)	6
United Cerebral Palsy Association Programs	3
TOTAL	49

Child Sample: Head Start and Non-Head Start Enrollees

The primary concern in the selection of handicapped children to participate in the study was to ensure that reasonable numbers of children representing various handicapping conditions were obtained. To do this, each program agreeing to participate in the study was asked to provide a roster of handicapped enrollees for whom parental permission had been secured for study participation. Individual children listed on these rosters were coded so that project staff had no knowledge of any identifying information other than the child's primary handicapping condition. Upon receipt of these rosters, project staff selected children by code on the basis of handicapping condition and returned to the programs the codes of the children selected. Program staffs were given the responsibility for arranging parent interviews at the time of scheduled site visits.

At the time of the baseline data collection, 815 children were selected for inclusion in the study through the procedures described above. Of this number, 782 provided complete pretest information--429 Head Start children, and 353 non-Head Start children.

For posttest data collection efforts, program staffs again arranged all necessary parent interviews and classroom observations. Field staff were able to recontact 712 of the 782 pretest cases (91%).

[1/] A program is categorical if it is designed to serve children with a specific handicap; it is non-categorical if it affords services to handicapped children with diverse disabilities.

Child Sample: Non-Served Control Group

Non-served handicapped children were defined as handicapped children who were not enrolled in a program in which at least two or more services (defined in terms of Head Start program components, i.e., education services, social services, health and nutrition services and parent/family involvement/counseling services) were provided. The non-served sample, therefore included several children who were receiving some form of limited service. Thirty-five percent of the pretest sample received occasional services such as day care, speech therapy, social worker home visits, and home teacher visits. However, relative to the services provided to children enrolled in Head Start and non-Head Start programs, the children in this study group could only be considered seriously underserved at best.

Children included in the non-served study group were selected from an identified (professionally diagnosed) population of preschool children not currently receiving treatment for their handicaps. Most of the children were chosen from the same communities in which the selected Head Start programs were located.

Potential study participants were identified through a number of sources. The directors of each Head Start and non-Head Start program were asked to provide names, addresses and telephone numbers of handicapped children who were awaiting enrollment in their programs. Other resources contacted for the same purpose included local school systems, local Public Health Departments, State and local directors of Easter Seal Agencies, and the Associations for Retarded Children.

Approximately 154 sample participants were identified through these resources for baseline data collection activities. Field staff were able to recontact and collect posttest data from 121 of these 154 children (78.6%).

The posttest sample of Head Start, non-Head Start and non-served children is presented by handicapping condition in Exhibit 2.

EXHIBIT 2: POSTTEST SAMPLE OF HEAD START, NON-HEAD START, AND NON-SERVED CHILDREN PRESENTED BY HANDICAPPING CONDITION

	PROGRAM TYPE			
Type of Handicap	Total % of Column	Head Start % of Column	Non-Head Start % of Column	Non-Served % of Column
Visually Impaired	2.4 (N=20)	4.6 (N=18)	0.3 (N=1)	0.7 (N=1)
Blind	0.6 (N=5)	0.3 (N=1)	0.6 (N=2)	1.7 (N=2)
Hearing Impaired	3.4 (N=28)	3.8 (N=15)	3.4 (N=11)	1.7 (N=2)
Deaf	1 .0 (N=8)	1.3 (N=5)	0.6 (N=2)	0.7 (N=1)
Physically Handicapped	19.6 (N=163)	18.2 (N=71)	17.4 (N=56)	14.9 (N=18)
Speech Impaired	26.1 (N=217)	29.4 (N=115)	16.2 (N=52)	41.3 (N=50)
Health or Developmentally Impaired	13.7 (N=114)	17.1 (N=67)	9.0 (N=29)	14.9 (N=18)
Mentally Retarded	22.5 (N=187)	11.8 (N=46)	37.4 (N=120)	17.4 (N=21)
Specific Learning Disability	6.0 (N=50)	6.9 (N=27)	6.5 (N=21)	1.7 (N=2)
Serious Emotional Disturbance	6.7 (N=56)	6.6 (N=26)	8.4 (N=27)	2.5 (N=3)
Not Specified				2.5 (N=3)
Total	100.0* (N=833)	46.9* (N=391)	38.6* (N=321)	14.5* (N=121)

1/ This table presents the distribution of children with complete baseline and posttest data.

2/ Number of non-served children with identified handicapping conditions = 118; 3 children did not have professionally diagnosed handicaps.

*Percent of Row

Study Variables and Instrumentation

Variables selected for investigation in this study were organized into five major sets. The first of these sets included variables related to program outcomes for children and represented the dependent measures for this evaluation. Among these dependent variables were measures of:

- physical (motoric) development
- self-help skills
- social/emotional development
- cognitive (academic) development
- communication (language) skills
- classroom social skills
- classroom behavior and social integration

Instruments used to measure these variables included the Alpern-Boll Developmental Profile, the Learning Accomplishment Profile (diagnostic version), the California Preschool Social Competency Scale, and the Prescott-SRI Child Observation System.

Two additional variable sets included measures and descriptions of child/family background characteristics that were expected to influence the outcome variables described above. One set included variables that were considered to be unaffected by a child's participation in a program of services such as child's chronological age, presence of multiple handicaps, nature of primary handicap, handicap severity, family socio-economic variables, and family structure. The other set included child/family variables that might have been influenced by program participation such as parent involvement in program activities, parental attitudes about education and preschool handicapped services, and child/parent interaction patterns.

Instruments used to measure these variable sets included the High/Scope Home Environment Scale, the Schaefer Parent Inventory and several inventories/questionnaires designed specifically for this study by Applied Management Sciences.

The fourth and fifth variable sets included measures and descriptions of staff and program variables. Variables in each of

these sets were categorized in the same manner as child/family variables. One set included program/staff variables believed to be relatively static over the course of the evaluation such as program funding patterns, per pupil expenditures, classroom structures, adult/child ratios, and staff education and experience. The other set included potentially dynamic program/staff variables such as staff attitudes about handicapped children, attitudes about parent program involvement, and staff perceptions of program support for their respective classroom efforts.

Instruments used to measure these variables included the Schaefer Teacher Inventory, the Schaefer Teacher Perception of Organizational Environment Inventory, and an additional questionnaire developed specifically for this study by Applied Management Sciences.

An overview of all study instruments, their purpose, their method of administration, their audiences, and other pertinent data is presented in Exhibit 3 (see following page).

Data Collection Schedule and Procedures

The schedule of data collection activities is presented in Exhibit 4. A six-month interval was established between baseline and posttest data collection activities. Because of scheduling conflicts, an exact six month interval was not maintained for several programs, but deviations from this interval were no more than ±2 weeks for all but two programs.

EXHIBIT 4: SCHEDULE OF DATA COLLECTION ACTIVITIES

	Study Group		
Dates	Head Start	Non-Head Start	Non-Served
Pretest			
Begin	October 17, 1977	October 17, 1977	November 7, 1977
End	November 25, 1977	November 25, 1977	December 30, 1977
Posttest			
Begin	April 17, 1978	April 17, 1978	April 21, 1978
End	May 26, 1978	May 26, 1978	June 16, 1978

Data were collected by teams of two to nine professionals who spent five to seven days in each of the communities represented by

EXHIBIT 3: OVERVIEW OF STUDY INSTRUMENTS

Instrument	Purpose	Source	Method	Baseline	Posttest
Primary Data Interview Schedule[1/]	Describe enrollment, program structure, curriculum, and funding	Program Director	Mailed Questionnaire or personal interview	X	-
Case Background Data Profile[1/]	Describe child's handicap, birth date, classroom structure, curriculum, and enrollment information	Program Director Handicap Coordinator, Teacher	Personal interviews	X	-
Case Background Data Profile (Non-Served)[1/]	Describe child's handicap, birth date, sex, and age	Parent	Personal interviews	-	X
California Preschool Social Competency Scale	Measure child's classroom social behaviors, responsibility, and independence	Teacher	Personal interviews or Self Administered	X	X
Teacher Interview Scale[1/]	Describe teacher's background characteristics and attitudes about teaching handicapped children	Teacher	Personal interview or Self-Administered	X	X (Attitude items only)
Schaefer Teacher Inventory I	Describe teacher's attitudes about parent involvement in the program and classroom and teachers' educational attitudes	Teacher	Personal interview or Self-Administered	X	X
Schaefer Teacher Perception of the Environment Inventory	Describe teacher's attitudes about program policies, administration, support from colleagues and ranking of the importance of different job factors	Teacher	Personal interview or Self-Administered	X	X
Alpern-Boll Developmental Profile	Assess child's skill development in these areas: physical, self-help, social, academic, and communication	Parent (or other person very familiar with child)	Personal interview	X	X
High Scope Home Environment Scale	Describe child's home environment	Parent	Personal interview	X	X
Parent Interview Schedule	Describe parents' background, family structure, and parental attitudes about their child and expectations about the child's program and mainstreaming	Parent	Personal interview	X	X (Selected items only)
Schaefer Parent Inventory[1/]	Describe parent attitudes about child's program and policies, and parent educational beliefs	Parent	Personal interview	X	X
Learning Accomplishment Profile-Diagnostic Edition (LAP-D)	Assess child's skill development in these areas: gross motor, fine motor, self-help, cognitive, and cognitive/language	Child (Speech impaired and emotionally disturbed only)	Individual assessment	X	X
Prescott-SRI Child Observation System	Describe specific child behavior and interaction incidents and summarize general behavior pattern of child in classroom	Child	Observations in classroom	X	X

[1/] Instrument developed by Applied Management Sciences for this project.

the sample programs. Data collection procedures included parent and staff interviews, direct functional assessment of a selected subsample of Head Start handicapped children, and formal observation of children in classroom situations.

Study Limitations

The interpretation of results from any program evaluation, particularly those employing complicated study designs, must be made in light of the conceptual and methodological limitations of the evaluation in question. The present evaluation has several specific limitations which should be noted.

While the overall sample of children participating in this study was rather large (836) most analyses conducted were blocked on the basis of program affiliation and the child's primary handicapping condition. This resulted in small analytical samples which reduced the power of multivariate techniques to detect legitimate treatment effects.

Another limitation is the fact that each of the three study groups was substantially different from the others with respect to important analytical variables. This was particularly so of the Head Start and non-Head Start children. Specifically, Head Start children more often came from economically disadvantaged homes while the non-Head Start children were more often more severely impaired. Although analysis efforts attempted to control for these and other preexisting group differences, it is doubtful that these differences did not, in some unknown way, bias comparative analyses to some degree.

A final limitation of note was that parent reports were used to establish levels of developmental ability for the sample children. While the reliability and validity of this information was carefully examined in several analytical substudies, there was no way to adequately ensure the objectivity of these data. It should be pointed out, however, that the problem of data validity in a national evaluation such as this is not so much a function of measurement technique utilized as it is with the fact that evaluators are not familiar with the children being assessed. Without this familiarity, unknown biases in study data are likely to be a concern no matter the measurement strategy.[1/]

[1/] For example, even if direct assessments are employed, there is the problem of young children's natural tendency to be shy and reserved before unfamiliar persons. This could result in a substantial underestimate of developmental abilities.

STUDY FINDINGS

Findings and conclusions of the Phase II study are highlighted according to seven specific areas of investigation:

- Characteristics of the Study Sample
- Characteristics of the Program/Staff Sample
- Parental Attitudes Toward Mainstreaming and Services for the Preschool Handicapped
- Staff Attitudes Toward Mainstreaming and Services for the Preschool Handicapped
- Patterns of Classroom Interaction and Social Integration
- Analysis of Comparative Program Treatment Effects
- Variables Associated with Positive Program Outcomes

Sections of the Phase II Final Report from which study highlights are taken are referenced at the conclusion of each paragraph that elaborates upon bold-faced bulleted findings.

CHARACTERISTICS OF THE STUDY SAMPLE

- **Children enrolled in non-Head Start programs were more severely impaired than Head Start enrollees or non-served handicapped children.**

While mildly, moderately, and severely/profoundly impaired children were represented in each of the three study groups, relatively fewer of the non-Head Start group were judged to be mildly impaired. Specifically, 41.8 percent and 40.3 percent of the Head Start and non-served study groups were classified as mildly impaired whereas this was so for 25.5 percent of the non-Head Start group *(pp. 4.6-4.7)*.

- **Approximately half of the Head Start study group was comprised of racial or ethnic minorities, whereas minorities comprised a quarter of the non-Head Start sample.**

Forty nine percent of the Head Start sample was comprised of minority children, the largest being non-Hispanic Blacks (34.3%). The non-Head Start group included 26 percent minority children (17.3% non-Hispanic Blacks). The difference in racial composition of the two samples was attributed to the economic situations of the programs' respective clients. Head Start services are targeted to low income groups. This was not so for most non-Head Start programs. It should be noted that well over half the unserved study group was comprised of minority children *(pp. 4.12-4.13)*.

- **The 1977-78 program year was the first year of program services for more children in the Head Start study sample than the non-Head Start study sample.**

The 1977-78 program year was the first time 75 percent of the children in the Head Start study group had been enrolled in a program of services. This was so for 67.6 percent of the non-Head Start study group. On the average, though, Head Start enrollees were older than non-Head Start enrollees indicating that overall, preschool services seem to be provided sooner for non-Head Start children than their Head Start counterparts *(pp. 4-13-4.15)*.

- **Head Start handicapped children more often came from lower socioeconomic backgrounds than did their non-Head Start peers.**

Thirty-six percent of the Head Start study group came from families earning less than $5,000 annually. This was so for 13.3 percent of the non-Head Start sample. Children in the non-served study group came from a socioeconomic background similar to that of the Head Start enrollees *(pp. 5.2-5.3)*.

- **The per enrollee expenditures of non-Head Start programs were dramatically higher than the per enrollee expenditures of Head Start programs.**

Defined by dividing a program's total budget by the number of enrollees, handicapped or otherwise, 81.3 percent of the non-Head Start programs reported per enrollee expenditures in excess of $1,500. Similar per enrollee expenditures were reported for 28.2 percent of the sample of Head Start programs *(p. 6.2)*.

- **Non-Head Start programs reported smaller overall program enrollments and class sizes than Head Start programs.**

Seventy-five percent of the non-Head Start children were enrolled in programs with total enrollments of 50 or fewer children, handicapped or otherwise. This was so for 6 percent of the children in the Head Start sample. As a consequence of smaller overall program enrollments, non-Head Start children were more often served in smaller classrooms. Forty-six percent of the children in the non-Head Start sample were served in classes of less than ten children whereas among children in the Head Start sample, this was so for 2.1 percent. Over half (51.2%) of the Head Start children were served in classes of twenty or more children (12% in classes of 30 or more children). This was so for 18.6 percent of the non-Head Start children (8.1% in classes of 30 or more children) *(pp. 6.2-6.3; 6.9-6.11)*.

- **Head Start handicapped children were far more likely to be served in a context with non-handicapped peers than their non-Head Start counterparts.**

Nearly 85 percent of the Head Start sample children were enrolled in programs in which the overall ratio of handicapped to non-handicapped children was no greater than 3 out of 10. On the other hand, 86.9 percent of the children in the non-Head Start sample were served in programs in which all the children were handicapped. This reflects the fact that almost all the Head Start programs emphasize mainstreaming as a component of their service plans while only 14 percent of the non-Head Start children were enrolled in programs practicing mainstreaming *(p. 6.5)*.

- **Head Start classroom teachers generally were more experienced in providing services to handicapped children than teachers of non-Head Start handicapped children.**

Among the children in the Head Start sample, 10.2 percent were served by teachers with less than one year's experience with handicapped preschool children and 32.7 percent were served by teachers with more than five years' experience. Among children in the non-Head Start sample, the comparable proportions were 17.8 percent and 21.5 percent, respectively *(pp. 6.10, 6.13-6.14)*.

- **Non-Head Start children were served by teachers who had more formal education and were better paid than the teachers of Head Start handicapped children.**

Children in non-Head Start programs were served by classroom teachers who were generally better educated and better paid than teachers in Head Start programs. More than 80 percent of the non-Head Start children were served by teachers who held at least a bachelor's degree compared to 37.6 percent of the children in Head Start programs. Further, 38.9 percent of the children in non-Head Start programs were served by teachers who were paid at least $10,000 a year whereas this was the case for 10.8 percent of the children in Head Start programs. More than 41 percent of the Head Start children were served by teachers earning $5000 a year or less *(pp. 6.14-6.17)*.

PARENTAL ATTITUDES TOWARD THE MAINSTREAMING OF AND SERVICES FOR HANDICAPPED CHILDREN

- **Parents of Head Start and non-Head Start children were highly in favor of mainstreaming as a part of their children's programs of services.**

Parents of mainstreamed Head Start and non-Head Start children were generally very positive about all aspects of mainstreaming. Further, this positive regard did not diminish over the course of the program year. Parents were just as favorable toward mainstreaming at the end of the program year as they were at the beginning of the year *(pp. 5.17-5.19)*.

- **Parents of Head Start and non-Head Start children held similar educational values and attitudes.**

Parents of Head Start and non-Head Start children exhibited generally similar educational values and attitudes. Head Start parents, though, displayed a slight tendency to be more conservative than non-Head Start parents in the sense that Head Start parents were more likely to favor absolute authority both on their part and on the part of teachers in affairs involving their children.

Parental educational values and attitudes remained almost unchanged over the course of the program year. This was so for parents of Head Start children as well as non-Head Start children. *(pp. 5.19-5.21)*.

STAFF ATTITUDES TOWARD THE MAINSTREAMING OF AND SERVICES FOR HANDICAPPED CHILDREN

- **Head Start teachers generally were more favorably oriented toward the practice of mainstreaming and perceived fewer constraints in implementing a mainstreaming program than teachers in non-Head Start programs.**

Although teachers in both Head Start and non-Head Start programs were generally positive about the practice of mainstreaming, Head Start teachers were much more favorable in their attitudes toward mainstreaming than non-Head Start teachers. Also, Head Start teachers perceived fewer obstacles, either programmatic or personal, to the successful implementation of a mainstreaming program.

Unlike parental mainstreaming attitudes, however, significant changes in teachers' attitudes occurred over the course of the program year. These changes tended to more closely align the attitudes of Head Start and non-Head Start teachers. Head Start teachers became slightly less favorable toward mainstreaming whereas non-Head Start teachers became more favorable toward mainstreaming and perceived fewer constraints in its implementation at the end of the program year than at the beginning. Head Start teachers remained, however, more positive toward mainstreaming at the end of the program year despite changes observed among non-Head Start teachers. *(pp. 6.22-6.24).*

- **Head Start teachers and non-Head Start teachers exhibited generally similar educational values and beliefs.**

With few exceptions, Head Start and non-Head Start teachers exhibited similar attitudinal orientations toward education. The exceptions, though, are worth noting. Head Start teachers believed that parents strongly appreciated their efforts to assist children, whereas non-Head Start teachers felt decidely less appreciated. Further, Head Start teachers strongly believed that children can learn by doing and that all children should be treated equally. Non-Head Start teachers, on the other hand, were more likely to believe that children can learn passively and less likely to believe in equal treatment of all children. Reasons for these attitudinal variations were not pursued.

No significant attitudinal changes were observed over the course of the program year for either group of teachers *(pp. 6.20-6.22).*

- **Teachers in Head Start and non-Head Start programs were positively oriented toward the organizational and professional environment in which they were employed.**

Despite the major salary discrepancies noted previously between Head Start and non-Head Start teachers, teachers in both program types exhibited comparably positive orientations to their professional work environment. Both sets of teachers felt they were well supported administratively and both sets of teachers believed that they were very much in control of their own work situations. However, Head Start teachers exhibited a slight tendency to feel more a part of their program's decision-making and horizontal communication processes.

Changes in attitudinal dispositions over the course of the program year were negligible for both Head Start and non-Head Start teachers *(pp. 6.22-6.23)*.

PATTERNS OF CLASSROOM INTERACTION AND SOCIAL INTEGRATION

- **Behaviors of handicapped children in Head Start more closely resembled behaviors of non-handicapped children than did the behaviors of handicapped children in non-Head Start programs.**

Observations of classroom behavior among children in the Head Start sample indicated that in general, Head Start children behaved more like non-handicapped children than did handicapped children in the non-Head Start programs. In part, this difference may be attributable to the fact that Head Start children were less impaired than their counterparts in other programs. This difference may also be attributable to the fact that Head Start children had greater access to non-handicapped role models than non-Head Start children because of Head Start's strong emphasis on mainstreaming *(pp. 7.7-7.9)*.

- **There was little evidence of disruptive behavior either initiated by or directed toward handicapped children in either Head Start or non-Head Start programs.**

Of the more than 40 specific behavior patterns that were observed more than 100 times over the course of the evaluation effort, none involved disruptive behaviors. Further, social isolation was not particularly prevalent among children in either sample. However, children in non-Head Start programs were relatively more isolated than Head Start children and this distinction was more pronounced over the course of the program year. This was particularly so for non-Head Start children identified as mentally retarded or emotionally disturbed *(pp. 7.7-7.9)*.

- **Overall, patterns of behavior observed in Head Start and non-Head Start classrooms were classified along two dimensions. The first of these involved receiving attention and assistance from adults as opposed to object-oriented activities. The second pattern involved positive activity and attention directed toward or initiated by a given child as opposed to negative or no attention.**

A factor analysis of observational data identified two stable behavioral factors. One factor involved behaviors that at one extreme involved interactions that were primarily directed toward adults and at the other extreme were characterized by object oriented behaviors in a group context. The second factor involved behaviors that at one extreme were characterized by positive child interactions (usually playful) and at the other extreme were characterized by no or negative child interactions. This latter factor fits very well a broad definition of the range of behaviors expected

in a mainstream setting. Head Start children showed less adult oriented behavior and more positive child interactions than their non-Head Start peers over the course of the program *(pp. 8.26-8.43)*.

- **Positive child interactions were associated, albeit weakly, with gains in developmental progress whereas adult centered behaviors were unrelated to positive developmental outcomes.**

Controlling for age, handicap severity, and baseline behavioral orientation/developmental age, positive child interactions were positively correlated with posttest developmental growth in physical, social, and communication skills. These relationships were noted for both Head Start and non-Head Start programs, although, as previously indicated, positive child interactions increased more in Head Start programs over the course of the program *(p. 8.43)*.

ANALYSIS OF COMPARATIVE PROGRAM TREATMENT EFFECTS

- **Among children included in the study sample, those who exhibited the greatest benefit from a program of services were children identified as speech impaired.**

Children identified as speech impaired in Head Start and non-Head Start programs manifested statistically significant developmental gains in physical, self-help, academic and communication skills relative to non-served children. Developmental gains among Head Start speech impaired children were comparable to those among children in non-Head Start programs. Each group evidenced gains of almost six months in communication age relative to non-served speech impaired children *(pp. 8.9-8.13)*.

- **In addition to speech impaired children, children in programs of services with other impairments evidenced growth in physical, self-help, social, academic and communication skills that were greater than or comparable to growth in similar areas among non-served children.**

Developmental gains for Head Start and non-Head Start children identified as physically handicapped, mentally retarded, and health or developmentally impaired were generally not significantly greater than those of non-served children. However, children in programs of services, particularly Head Start, generally exhibited small but positive developmental gains in physical, self-help, social, academic and communication skills relative to non-served children. Exceptions to this trend were in the areas of social skills among the mentally retarded and health or developmentally impaired, and physical and communication skills among the physically handicapped *(pp. 8.9-8.18)*.

- **Although differences in posttest developmental outcomes were not often statistically significant between children in Head Start and non-Head Start programs, these differences generally favored Head Start children.**

After adjusting for pre-existing sample differences, it was noted that developmental gains among handicapped children in Head Start were often larger than those of children in non-Head Start programs. This was particularly so for children identified as mentally retarded, health or developmentally impaired, and learning disabled or seriously emotionally disturbed. Across all handicapping conditions, Head Start children exhibited consistently greater gains than non-Head Start children in self-help skills and academic skills. This conclusion should be tempered, though, by the fact that the non-Head Start sample was generally a more severely impaired group of children, and it is not certain that this pre-existing difference between samples was completely accounted for in analytical undertakings. Further, with few exceptions, differences between Head Start and non-Head Start study groups were not statistically significant *(pp. 8.9-8.18)*.

VARIABLES ASSOCIATED WITH POSITIVE PROGRAM OUTCOMES

- **Individual attributes and family background characteristics were largely unrelated to successful program experiences for handicapped children in Head Start.**

Successful program experiences refer to measurable posttest gains in physical, self-help, social, academic and communication skills beyond that which could be expected to occur as a function of maturation. Among Head Start handicapped children, successful program experiences were largely unrelated to a child's individual attributes or his/her family's socio-economic background. This finding was interpreted to mean that few children in the study sample came into Head Start who could not benefit from Head Start services simply because of their handicap, severity of impairment, or family background. Among sample children in non-Head Start programs, though, there was a slight tendency for children with more severe impairments to be less likely to benefit from services than moderately impaired children. This latter finding probably reflects the fact that proportionately more non-Head Start children were severely handicapped than their Head Start counterparts *(pp. 9.11-9.22)*.

- **Parent/child interactions in the home contributed, in small part, to gains in classroom social skills.**

As in the case of program outcomes in the basic developmental areas, individual child attributes and family background characteristics were not particularly effective in identifying those handicapped children in Head Start and non-Head Start programs who were likely to exhibit gains in classroom social skills beyond that expected through normal maturation. However, to the extent that differences between those who did and did not evidence such increases existed, the quality and quantity of parent/child interaction in the

home was a consistently significant variable. (The mean posttest correlation between the measures of child/parent interaction and the measure of classroom social skills was .34). This trend was observed for both Head Start and non-Head Start children and was interpreted as underscoring the importance of parent involvement in programs of services for the preschool handicapped *(pp. 9.33-9.39)*.

- **Among staff variables associated with successful program outcomes among Head Start children, teacher experience (in terms of years of service with handicapped children) appeared to be more important than formal education.**

The data indicated that among Head Start enrollees, the more experienced a child's teacher in working with handicapped children, the more likely the child would realize program benefits regardless of the teacher's salary level or formal education. The exception to this general finding was among Head Start children identified as mentally retarded. For these children, teacher preparation (in terms of formal education and/or degree area) was at least as important as experience. Among non-Head Start enrollees, teacher education was more important in distinguishing between children who did or did not evidence developmental gains than teacher experience *(pp. 9.22-9.33)*.

- **Smaller class sizes, low handicapped child/non-handicapped child ratios, and the percentage of classroom time spent in a mainstreaming context were associated with successful program outcomes for certain handicapping conditions among Head Start children.**

Smaller class sizes, lower handicapped child/non-handicapped child ratios and high levels of time spent in a mainstreaming situation were all positively related to developmental gains and increased positive social interaction among Head Start enrollees. Trends, however, were not generally statistically significant and varied as a function of the nature of the child's handicap. Variables associated with the practice of mainstreaming (e.g., time spent in a mainstreamed situation) were associated with program benefits for physically handicapped and mentally retarded Head Start enrollees. Smaller class sizes were associated with program benefits for the speech impaired and the mentally retarded. Lower ratios of handicapped to non-handicapped children were associated with program benefits for the physically handicapped, the speech impaired, and the mentally retarded *(pp. 9.22-9.33)*.

SUMMARY AND CONCLUSIONS

Overall, the Phase II effort to evaluate the impact of Head Start services to the handicapped revealed that in general Head Start services compare favorably to those of non-Head Start programs. This is so despite the fact that there were several program procedural areas in which non-Head Start programs appear to have decided advantages (smaller class sizes, staffs with greater levels of formal education, larger per pupil expenditures, greater emphasis on individualized planning).1/ In fact, the consistency with which Head Start children showed developmental gains beyond those for children in non-Head Start programs suggests that Head Start may be a very effective placement for preschool handicapped children, at least for the period investigated by this study. Further, considering the patterns noted between Head Start and non-Head Start programs vis-a-vis child interaction composite variables and the relationship of these interaction variables to developmental outcomes suggests that one reason for the consistent differences between programs may be Head Start's emphasis on mainstreaming.

This interpretation of differential program results is subject to other alternative explanations. For example, it is possible to argue that despite efforts to control for handicap severity, differential program effects may be a function of the fact that the non-Head Start group was generally more severely impaired than their Head Start counterparts. However, the data are generally consistent with and support the proposition that mainstreaming may make a difference, and this is noteworthy. These data, when considered in the context of other research into programs for the handicapped, further reinforces the desirability of serving special children in the least possible restrictive environment.

Aside from the possible impact of mainstreaming on successful program outcomes, the study data indicated that among Head Start children smaller class sizes and experienced staff may be important contributors to successful program experiences. Parent/child interaction was also shown to be a factor in the development of classroom social skills.

In the final analysis, it can be said with some confidence that the Head Start handicapped effort compares favorably to other service alternatives. This is so despite the methodological implications of this evaluation effort. For the individual children concerned, this is perhaps the most meaningful and important conclusion this study could have hoped to achieve.

1/ See Walters, et al., Evaluation of the Process of Mainstreaming Handicapped Children into Project Head Start: Phase I Final Report, prepared pursuant to Contract No. DHEW 105-76-1113, Applied Management Sciences, Inc., 1978.